

Application No.: 09/269,501
Response Under 37 C.F.R. §1.111 dated August 12, 2004
Response to the Office Action dated March 12, 2004

REMARKS

Reconsideration of this application, as presently amended, is respectfully requested. Claims 1 - 23 are pending in the present application. Claims 1 – 23 stand rejected. No new matter has been added. The rejections set forth in the Office Action are respectfully traversed below.

Applicant would like to thank the Examiner for the courtesies extended to applicant's representative during the personal interview conducted on August 11, 2004. During the course of the interview, the rejections of the claims were discussed with particular emphasis on independent claims 1 and 23 and the **Ouderkirk et al.** and **Sonoda et al.** references.

Further, during the course of the interview the Examiner indicated that adding a feature to the claims, such as a feature related to 100% light utilization, would be given particular attention upon filing the Amendment. In that regard, claims 1 and 23 have been amended hereby to recite that the reflection-type polarizing film has a *specular reflection characteristic*. Support for this change to the claims is provided in the application specification, e.g., page 7, lines 8-9 and page 18, lines 8-9. Moreover, it is noted that specular reflection is defined as, e.g., the mirror-like reflection of light from a surface. With a perfect mirror, 100 percent of the light is reflected in this manner. It is respectfully submitted that specular reflection is substantially the same as having approximately 100% reflection.

Rejections in view of the Prior Art

Claims 1, 2, 5-7, 9-12, 17, 18, and 23 were rejected as being unpatentable over **Ouderkirk et al.** (U.S. Patent No. 6,124,971) in view of **Sonoda et al.** (U.S. Patent No. 5,880,796). For the

reasons set forth in detail below, this rejection, to the extent it is considered to apply to the amended claims, is respectfully traversed.

Ouderkirk et al. disclose a reflective display including a front dichroic polarizer 10, LCD panel 11, transflector 13 and absorber 33. The transflector 13 includes a reflective polarizing element 8 and a polarization preserving diffusing element 6. In operation, the transmission axis of the reflective polarizing element 8 is preferably aligned with the transmission axis of the dichroic polarizer 10. When the LCD panel 11 transmits a light ray without affecting its polarization, the ray 43 is transmitted by the transflector 13, resulting in a dark pixel in the LCD 11. When the LCD panel 11 rotates the polarization of a light ray 41, the light ray is reflected by the transflector 13 to form a reflected ray 42 that is transmitted out of the display with a diffuse appearance. The overall effect of the display is *dark characters on a diffuse light background*.

Ouderkirk et al. do not disclose or suggest a liquid crystal display device having the combination of a color filter and a reflection-type polarizing film, as presently claimed, allowing contrasting display of information display and background. It is clear that **Ouderkirk et al.** is only related to displaying in black and white or monochromatic, and does not disclose, suggest or provide motivation or incentive for providing a color display, as claimed. Moreover, **Ouderkirk et al.** do not disclose or suggest a reflection-type polarizing film having a specular reflection characteristic, as presently recited in claims 1 and 23.

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The Office Action applies **Sonoda et al.** to teach “in Figure 11 that a color film, 114 (applicant’s color filter), may be disposed on the visible side of the LCD display...” (Office Action, page 3, lines 10-13).

Initially, it is noted that the embodiment of **Sonoda et al.** shown in Fig. 11 is related to an analog watch having hands 107 (minute hand and an hour hand). Thus, the embodiment applied against the claims is unrelated to an LCD display. Therefore, it is respectfully submitted that because **Sonoda et al.** do not disclose an LCD structure as claimed, **Sonoda et al.** do not suggest any particular arrangement of a color filter in that structure, and particularly, a color filter disposed between an absorption-type polarizing film and a reflection-type polarizing film, as presently claimed.

Sonoda et al. discloses a structure which provides the background of an analog watch face with a color-metallic impression by disposing a color film 114 in the front surface of a metal display plate 109. The display plate 109 is made wholly of metal, as described in column 7, line 60, “FIG. 7 shows the display plate 109 wholly made of metal.”. The display plate 109 includes a number of elongated outgoing openings 113 formed in the display plate as illustrated in FIG. 8 - FIG. 10. Light from an EL light emitting member 108 located under the display plate 109 shines through the openings 113 enabling the entire surface of the display plate to appear bright (see column 8, lines 1-12). The film member 114 placed on top of the display plate 109 may be a color film having a light-transmissive property to give a color metallic impression to the display plate 109 (column 8, lines 54-56).

Thus, because the surface of the display plate 109 is actual metal, the color film 114 and display plate 109 are very different from the presently claimed invention wherein a metallic tone is obtained by a reflection-type polarizing film (which is non-metallic) and a color filter.

Still further, the reflection-type polarizing film of the present invention “*transmits the light linearly polarized in the direction parallel with the transmission axis, and reflects the light linearly polarized in the direction orthogonal to the transmission axis.*” The reflection-type polarizing film does not function by transmitting or reflecting all light. Its reflection of light depends on the polarized direction of the linearly polarized incident light. In contrast, the display plate 109 reflects the incident light regardless of its polarized direction in the area other than the outgoing opening 113, and transmits the light incident to the outgoing opening 113.

Furthermore, **Sonoda et al.** does not disclose a LCD structure for displaying information and background, but discloses only that the metal surface of the display plate 109 is “colored” with the color film 114. Accordingly, **Sonoda’s** display device provides a display in which only monotone or fixed color-metallic display is obtained. In contrast, the presently claimed invention provides either information, such as numbers and characters, or the background in color and with strong contrast.

Thus, in summary, it is respectfully submitted that **Sonoda et al.** does not alleviate the deficiencies of **Ouderkirk et al.** Specifically, **Sonoda et al.** do not disclose or suggest a liquid crystal display device having the combination of a color filter and a reflection-type polarizing film, as presently claimed. Moreover, it is respectfully submitted that the requisite motivation for

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combining **Sonoda et al.** with **Ouderkirk et al.**, as required under §103, is lacking. Specifically, **Sonoda et al.** taken as a whole simply suggests using a color film to give a tint or color impression to a metal display plate 109 of an analog watch. **Sonoda et al.** do not suggest using a color film in **Ouderkirk et al.** to produce an LCD color display.

Therefore, in view of the above amendments and remarks, it is respectfully submitted that neither **Ouderkirk et al.** nor **Sonoda et al.**, whether taken alone or in combination, disclose, suggest or render obvious the invention as recited in independent claims 1 and 23, and in claims 2, 5-7, 9-12, 17 and 18, which depend from claim 1. Accordingly, reconsideration and withdrawal of the rejection of claims 1, 2, 5 - 7, 9 - 12, 17, 18 and 23 under §103 are respectfully requested.

Moreover, the dependent claims recite additional features not disclosed or suggested by the cited prior art. For example, dependent claim 17 recites using a color polarizing film as a color filter. The Office Action asserts that **Ouderkirk et al.** discloses a dichroic polarizer. However, "dichroic" means absorption dichroic, which means a difference in transmittance of the light linearly polarized in the polarizing direction, and does not mean coloring. Accordingly, it is respectfully submitted that a "dichroic polarizer" disclosed by **Ouderkirk et al.** is an ordinary absorption-type polarizing film, not a "color polarizing film" in recited in claim 17 of the present invention.

Furthermore, claim 18 recites using a multi-layered dielectric coating as a color filter. The Office Action asserts that **Ouderkirk et al.** discloses the claimed coating. However, the multi-layered coating disclosed in **Ouderkirk et al.** is a multi-layered coating itself formed on the

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reflection-type polarizing film. It is respectfully submitted that it is clear that the multi-layered coating has no color from the description, column 5, lines 27-30, "while the average transmission along the other stretch direction may be desirably less than, for example 20%, over a bandwidth of, for example, the visible spectrum (400-700 nm)". Accordingly, the multi-layer coating of **Ouderkirk et al.** is not the same as the multi-layered dielectric coating used as a color filter, as recited in claim 18.

Claims 13-16 and 20-22 were rejected under 35 U.S.C. §103 as being unpatentable over **Ouderkirk et al.** in view of **Sonoda et al.**, and further in view of **Bahadur et al.** For the reasons set forth in detail below, this rejection is respectfully traversed.

It is respectfully submitted that **Bahadur et al.** do not alleviate the deficiencies of **Ouderkirk et al.** in view of **Sonoda et al.**, and therefore claims 13-16 and 20-22, which depend either directly or indirectly from claim 1, are allowable for the same reasons set forth above with respect to claim 1. Specifically, **Bahadur et al.** do not disclose or suggest use of a color filter in combination with a reflection-type polarizing film, as presently claimed.

Bahadur et al. discloses a color filter disposed on a part of a liquid crystal display device. However, **Bahadur et al.** do not suggest displaying contrasting bright colors, using a color filter in combination with a reflection-type polarizing film, as presently claimed.

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It is therefore respectfully submitted that claims 13 – 16 and 20 – 22 distinguish over the cited prior art. Reconsideration and withdrawal of the rejection of claims 13 – 16 and 20 – 22 under §103 are respectfully requested.

Claims 3, 4, 8 and 19 were rejected under §103 as being unpatentable over **Ouderkirk et al.** in view of **Sonoda et al.**, and further in view of **Hisatake et al.** (U.S. Patent No. 5,731,858). For the reasons set forth in detail below, this rejection is respectfully traversed.

It is respectfully submitted that **Hisatake et al.** do not alleviate the deficiencies of **Ouderkirk et al.** in view of **Sonoda et al.**, and therefore claims 3, 4, 8 and 19, which depend either directly or indirectly from claim 1, are allowable for the same reasons set forth above with respect to claim 1. Specifically, **Hisatake et al.** do not disclose or suggest use of a color filter in combination with a reflection-type polarizing film, as presently claimed.

Hisatake et al. disclose a light scattering film, but not a color filter in combination with a reflection-type polarizing film.

It is therefore respectfully submitted that claims 3, 4, 8 and 19 distinguish over the cited prior art. Reconsideration and withdrawal of the rejection of claims 3, 4, 8 and 19 under §103 are respectfully requested.

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CONCLUSION

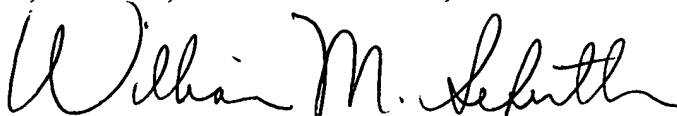
For the reasons set forth in detail above, it is respectfully submitted that all pending claims are in condition for allowance. An indication of allowability of all pending claims is respectfully requested.

If the Examiner believes that there are issues remaining to be resolved in this application, the Examiner is invited to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite and complete prosecution of this case.

In the event that any fees are due in connection with the filing of this paper, please charge any fees to Deposit Account No. 50-2866.

Respectfully submitted,

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